



Partnership for Environment and Growth



Programme carried out with the financial assistance of the European Union

Practical application of SEA to the waste management sector of Georgia

SEA Training Workshop 2: Effect Assessment, Mitigation and Monitoring

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Identifying mitigation measures and designing the monitoring scheme: Preparation of effective inputs to decision making process

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Mitigation measures

Recommendations for design of planned activities/projects.

- recommendations on specific issues and alternatives that should be investigated in their design,
- proposing scope and focus of specific EIAs that will be undertaken in the future for these activities,
- recommending conditions for implementation of these activities/projects.

Improvements in inter-institutional arrangements to ensure that side effects of the proposed plan are properly managed.

- These may include improved coordination between relevant authorities, better use of economic instruments or enhanced enforcement and administrative supervision of proposed developments.

Other proposed initiatives to offset adverse impacts.

Mitigation measures: Environmental management system for implementation (1)

Preliminary ToRs (key issues and alternatives to be considered) for future SEAs - if the P/P triggers development of another P/P

Preliminary ToRs (key issues and alternatives to be considered) for future EIAs - if the P/P triggers specific projects that will require EIA

Guiding notes for decision-making on subsequent actions - if the P/P triggers specific projects that will not require EIA but yet may have significant effects

Mitigation measures: Environmental management system for implementation (2)

Recommendations for future institutional arrangements for implementation (e.g. SEA team members part of Strategy/Plan steering committee)

Budgeting arrangements might be of utmost importance for influencing implementation

Reflection of environmental and health issues addressed within the SEA in the reporting & monitoring systems

Case example 1: SEA for OP Enterprise and Innovations Czech Republic 2007 – 2013

Following principles were incorporated into the OPEI projects selection mechanism:

- Bonus for projects directly focusing on improvement of the environment
- Bonus for reduction of material intensity of the production
- Bonus for reduction of the energy consumption
- Bonus for reduction of emission and waste volumes
- Bonus for localization of the project in an old industrial site (instead on green field)

Within the OPEI component (sub-Program Eko-energie) focusing on support of the renewable energy and energy savings following criteria were adopted:

- Costs of the emissions reduction (CZK/kg CO₂/ year)
- Verified total energy savings (electricity/heat)
- Average real use of installed energy generation capacity of a renewable resource

Case example 2: SEA for National Waste Management Plan of Montenegro for period 2015-2020 (NWMP)

Measures of protection and reducing the impact on biological and landscape diversity and protected areas

1. When choosing locations for landfills and other facilities of the waste management system, it is necessary to use for this purpose existing degraded areas to the biggest extent possible.
3. During the preparation of the project documentation (environmental studies, etc.) for each landfill, the latest data on habitats (habitat map) and protected areas (border areas, of the future Natura 2000 sites) should be consulted.
4. It is necessary to initiate and sponsor a program of regular cleaning of garbage discarded or spread along the roads and in places under protection (natural and cultural heritage) as well as attractive tourist sites. These activities need to be implemented in cooperation with non-governmental organizations, schools and other stakeholders.

Monitoring in SEA: Legal Requirements

SEA Directive:

1. monitor the significant environmental effects of the implementation of P/Ps
2. undertake appropriate remedial action
3. use existing monitoring arrangements, if appropriate
4. monitoring measures to be publically available

Protocol on SEA

1. = 1. above + health effects
2. = 2. above
3. results of the monitoring undertaken to be publically available

Tasks of Monitoring in SEA

- Compare predicted and actual effects, thus providing information on the implementation of the P/P
- Provide experience to help improve future SEAs (i.e., as a quality control tool)
- Check that environmental conditions imposed by the authorities are being complied with.
- Check that the P/P is implemented as described, including the prescribed mitigation measures.

General approaches to monitoring

Impact-Related Monitoring on a Project Level

- data is collected at different stages of project development (permitting, start of operation, regular monitoring – emissions, wastes, etc.)

State-Related Monitoring (General Environmental Monitoring)

- to observe and describe the state of the environment (including changes) independently from programmes and plans

General approaches to monitoring (cont'd)

Performance-Led Monitoring

- controlling the implementation and effectiveness of certain measures foreseen in a plan or programme (e.g. mitigation measures)

Objective-Related Monitoring

- controlling whether specific environmental quality objectives or environmental targets are attained within a given amount of time

Combined Approaches

How to design the SEA Monitoring Scheme?

Monitoring

Evaluation and
management

Communication/
reporting

Monitoring scheme design depends on the scope & content of a specific P/P + on existing monitoring capacities, administrative level and legal requirements.

Consider:

- Monitoring activity to be undertaken
- Responsibility for undertaking the monitoring
- When the monitoring needs to be carried out (dates & frequency)
- How results should be presented and in what format

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Approaches and tools (1/2)

Monitoring is linked to the environmental baseline, effect evaluation, and mitigation measures.

Example of structure for monitoring

SEA objective	Significant environmental effect	Proposed monitoring
To protect and where possible enhance flora and fauna	Permanent loss of inter-tidal habitat due to 'hold the line' coastal protection schemes and on-going coastal squeeze	Monitoring of the quantity of inter-tidal habitat losses and gains using: <ul style="list-style-type: none"> • modelling based on water levels (annual); • aerial photography (at least on a 5 yearly basis).
	Inter-tidal habitat creation	Long-term monitoring through: <ul style="list-style-type: none"> • aerial photography • vegetation surveys • bird surveys • benthic macro-invertebrate surveys
To protect the historic environment	Potential to unearth or damage buried archaeological features	No strategic monitoring required. During preparation of detailed designs, appropriate archaeological assessments and watching briefs will be carried out.

Approaches and tools (2/2)

Monitoring is based on the use of **indicators** that are tailored to each identified environmental and health issue/receptor

Indicator is a piece of information to measure the progress or achievement of an objective/a variable (economic, social or environmental).

For example, **SMART indicators**:

An indicator should be specific, measurable, available/achievable in a cost effective way, relevant for the programme, and available in a timely manner (SMART).

Monitoring Examples from the Midlands WMP SEA

Environmental Receptor	Indicator	Source
Biodiversity, flora and fauna	<ul style="list-style-type: none"> - Proximity of new facilities to designated areas - Area and % of designated habitat damaged due to waste management facilities 	<ul style="list-style-type: none"> -Site EIS/AER/ DoEHLG -Site EIS/otherwise may not be available
Soil/ Landuse	<ul style="list-style-type: none"> - Area of land occupied by ceased and existing waste activities (Total area and greenfield area) - Location of new facilities - Area of land contaminated due to waste activities - Area of contaminated land restored for beneficial use 	<ul style="list-style-type: none"> -AER, Local Authority -AER -Local Authority -Local Authority
Air	<ul style="list-style-type: none"> - Number of licence exceedances for dust and noise - No. of households with a waste collection service - Estimated tonnes of waste uncollected - Amount of energy captured from waste facilities 	<ul style="list-style-type: none"> -AER - Local Authority /AER
Climatic Factors	<ul style="list-style-type: none"> - Estimate of landfill gases (CO₂ and methane) emitted/year from facilities - Tonnes of waste recycled, landfilled and thermally treated 	<ul style="list-style-type: none"> -AER/ Local Authority -Local Authority/ Annual Report/
Transport	<ul style="list-style-type: none"> - No. of waste generated journeys or km travelled - Proximity of waste facilities to centres of population - Amount of waste generated (success of waste minimisation) - No. of households with home composting 	<ul style="list-style-type: none"> -may not be available -Local Authority, CSO -Local Authority -Local Authority

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Implementing the SEA Monitoring Scheme

Monitoring measures should not only be envisaged, but also implemented!

SEA monitoring activities and reporting should be:

- optimally integrated in the overall monitoring scheme for the implementation of a P/P and/or linked to its regular revisions.
- reasonably based on existing monitoring schemes

Who is responsible?

- Protocol on SEA & SEA Directive do not suggest who, where, when or how should undertake the SEA monitoring.
- Practice:

SEA and Decision-making

Decision-making: approval of a P/P

SEA shall provide information for decision-making, shall not be decision itself!

SEA shall inform about the environmental and health effects of a P/P

- P/P developers
- Decision-makers
- The Public

...and so contribute to the objective and knowledge-based decision

SEA and Decision-making: Requirements of the SEA Protocol (1)

Article 11 – Decision

Decision-maker must take into account

- conclusions of environmental report
 - including measures to prevent / reduce / mitigate adverse effects of various P/P alternatives
- opinions expressed by
 - relevant environmental & health authorities
 - the public concerned
 - any affected Parties

SEA and decision-making: Requirements of the SEA Protocol (2)

Following P/P adoption, decision-maker must inform

- relevant environmental & health authorities
- the public (not just the public concerned)
- any affected Parties

Adopted P/P must be made available, plus a statement:

- Summarizing how environmental and health considerations (in the environmental report) integrated into adopted P/P
- Summarizing how their opinions (of authorities & ‘the public concerned’) have been taken into account
- Summarizing reasons why P/P was adopted in light of reasonable alternatives considered

SEA and Decision-making: Communication to Decision-makers

SEA is only as good as its results are reflected by the decision-makers (?)

For final recommendations use the language of decision-makers

- Don't extend too much on technical details
- Don't focus on problems but solutions
- Emphasize potentials of more sustainable solutions

Questions, comments?

Thank you for your attention!

21. September 2015